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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,044	09/30/2003	Nelson Bolton	626-119	5420

7590

12/05/2005

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EXAMINER

SPAHN, GAY

ART UNIT	PAPER NUMBER
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3673

DATE MAILED: 12/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/675,044		BOLTON ET AL.	
	Examiner		Art Unit	
	Gay Ann Spahn		3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 4,7,8 and 10-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,6 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of the species of Fig. 1 in the reply filed on 18 April 2005 is acknowledged. The traversal is on the ground that "[t]here is no patentable distinction between the species of Fig. 1 and Fig. 2." This is not found persuasive for the reasons as follow.

Fig. 1 discloses a "single monolithic glazing unit" (10; specification, page 7, lines 6-7) wherein the flat head (18) of a bolt (17 in specification, but unnumbered in drawing figure) is embedded in an internal polymer layer (12) and the threaded shaft of the bolt passes through bushing (13) and support structure (14) to mate with nut (19). Thus, the connection holding everything together is external to the structure itself.

Fig. 2 discloses a "laminated multiple glazing unit" or a "glass double glazing unit" (20; specification, page 8, lines 13-14) wherein the head of a capped nut (27) is embedded in a polymer interlayer (22) and the shaft of the capped nut (27) extends through an internal glass element (23). The shaft of the capped nut (27) has a threaded bore therein for mating with the threaded shaft of a mechanical fixing element or bolt (26). The mechanical fixing element or bolt has a head (25) which is located adjacent support structure (14) and a shaft which passes through support structure (14), through bushing (28) and into the threaded bore of the shaft of the capped nut (27) that is extending through the internal glass element (23). The species of Fig. 2 is different from the species of Fig. 1 in that it has an additional layer (i.e., internal glass element

(23)) and in that the connection holding everything together is internal of the structure itself. Based on the foregoing, the examiner deems the species of Fig. 1 to be patentably distinct from the species of Fig. 2.

Therefore, the requirement is still deemed proper and is therefore made FINAL.

With respect to the election of species requirement requiring Applicants to elect between glass and plastic (i.e., second group of species in 23 March 2005 Office Action), the examiner is withdrawing the election of species requirement and will examine both glass and plastic. However, it should be noted that because Applicants have stated that glass and plastic are equivalent in glazing units, the examiner will now be able to use glass and plastic as equivalents in any reference used in a rejection against Applicants' claims. In other words and as is stated in the 23 March 2005 Office Action in the paragraph spanning pages 2 and 3, the Applicants' traversal on the ground that the species of glass material for glazing units and the species of plastic material for glazing units are not patentably distinct will be treated as an admission that glass and plastic are either equivalent or are obvious variants of each other such that if the examiner finds one species of the invention unpatentable over the prior art, the admission may be used in a rejection under 35 U.S.C. § 103(a) against the other species of the invention.

Claims 4, 7, 8, and 10-12 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable

generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 02 May 2005.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the

(1) "support frame" recited in claim 6, line 1,

must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

- (1) reference numerals "22a", "22b", and "26a" shown in Fig. 2; and
- (2) reference numerals "41a", "43b", "46", and "47" shown in Fig. 4.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

(1) reference numeral "17" discussed on page 2, lines 11 and 21, with respect to Fig. 1 and labeled as a "bolt"; and

(2) reference numeral "50" discussed on page 10, lines 10, 11, and 16, with respect to Fig. 4 and labeled as a "female mechanical securing element".

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The

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disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because of the word "means" on line

3. Correction is required. See MPEP § 608.01(b).

The disclosure is objected to because of the following informalities:

(1) page 1, line 16 (beginning with "In an attempt"), after "form", insert --in--;

(2) page 1, line 22, change "4,481,868" to --4,581,868-- and after "reference," ,
insert --and which--;

(3) page 6, line 22, change "y-y" to --4A-4A--;

(4) page 8, line 16, after "22", insert --having inner and outer surfaces 22a and
22b--; and

(5) page 8, line 20, after "end", insert --26a--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3, 6, and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3, lines 1-2, the recitation of “an ionomer polymer layer” is indefinite and confusing because it is not known if the “ionomer polymer layer” is the same as or different from the “at least one polymer element layer” recited in lines 2-3 of claim 1.

Claim 6, line 1, the recitation of “a support frame” is confusing and indefinite because it is not known if the “support frame” is the same as or different from the “support structure” recited in claim 1, line 1.

Claim 9, line 1, the recitation of “the glazing element layers” lacks antecedent basis because only one “external monolithic glazing element layer” was introduced in claim 1, lines 1-2.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 6, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Bolton et al. (U.S. Patent No. 4,799,346).

As to claim 1, Bolton et al. disclose a glazing unit (10; see Figs. 1, 3, 5-7) for mounting in a support structure (unnumbered in Fig. 5, but what bolt 45 is sunk in) comprising: at least one external monolithic glazing element layer (12) bonded to at least one polymer element layer (11) having embedded therein at least one member (16 or 22) of a mechanical fastening means for fixing said unit (10) to the support structure.

As to claim 2, Bolton et al. disclose the glazing unit (10) of claim 1 as discussed above, and Bolton et al. also disclose that said mechanical fastening means consists of a fastening mechanism having an interacting male member (45) and a female member (16 or 22).

As to claim 3, Bolton et al. disclose a glazing unit (10; see Figs. 5 and 6) for mounting in a support structure (frame 44) comprising: at least one external monolithic glazing element layer (12) bonded to at least one polymer element layer (11) having embedded therein at least one member (34) of a mechanical fastening means for fixing said unit (10) to the support structure, wherein said mechanical fastening means consists of a fastening mechanism having an interacting male member (34, 40) and female member (42), and wherein the male member (34, 40) is embedded in an ionomer polymer layer (11) and protrudes for connection to the support structure.

The recitation of “for connection to the support structure” is a recitation of intended use and as such the examiner only need show that the Bolton et al. reference is capable of performing the recited intended use. It is the examiner's position that the male member (34, 40) of Bolton et al. is capable of performing the recitation of intended use of being “for connection to a support structure” because the male electrical pin (40) could be used to connect the glazing unit (10) to a support structure and therefore, Bolton et al. meets the claim language of claim 3.

As to claim 6, Bolton et al. disclose the combination of the glazing unit (10) of claim 1 as discussed above, and Bolton et al. also disclose a support frame (frame 44; see Figs. 6 and 7).

As to claim 9, Bolton et al. disclose the glazing unit (10) of claim 1 as discussed above, and Bolton et al. also disclose that at least one of the glazing element layers (12) is a glass (see col. 4, line 29 wherein it refers to "glass outer members 12, 14").

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bolton et al. (U.S. Patent No. 4,799,346), as applied to claim 2 above, and further in view of either McCann (U.S. Patent No. 4,581,868) or Yoxon et al. (U.S. Patent No. 4,680,206).

As to claim 5, Bolton et al. disclose the glazing unit (10) of claim 2 as discussed above, and Bolton et al. also disclose that said fastening mechanism consists of a bolt (see col. 3, lines 64-66, wherein it states that "[t]he attachment member 16 is further provided with holes 23 for bolting or nailing onto a frame or support structure.>").

However, Bolton et al. fails to explicitly disclose an interacting bolt and nut arrangement.

McCann discloses a glazing unit (1) mechanically secured to supporting members (2) via an interacting bolt (12) and nut (21) arrangement.

Yoxon et al. disclose a glazing unit (1) mechanically secured to supporting members (not shown) via an interacting bolt (8) and nut (30) arrangement.

It would have been obvious to one of ordinary skill in the art to provide a nut as taught by either McCann or Yoxon et al. to interact with the bolt disclosed by Bolton et al. in order to more securely attach the glazing unit to the support structure (i.e., the bolt 45 shown in Fig. 6 of Bolton et al. has a greater chance of becoming detached from where it is sunk in the support structure than if held to the support structure with a nut).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Various glazing unit and attachment arrangements are shown in: U.S. Patent No. 4,581,868 to McCann (see page 1, line 21 through page 2, line 11 of Applicants' specification); U.S. Patent No. 2,310,402 to Dennison (see page 3, lines 4-6 of Applicants' specification); U.S. Patent No. 4,029,942 to Levin (see page 3, lines 7-9 of Applicants' specification); U.S. Patent No. 3,311,517 to Keslar et al.; U.S. Patent No. 4,046,933 to Stefanik; U.S. Patent No. 5,391,411 to Rowland et al.; U.S. Patent No. 5,885,714 to Demeeter; U.S. Patent No. 6,941,721 to Lind; U.S. Patent No. 4,680,206 to Yoxon et al.; U.S. Patent No. 5,106,250 to Fischer et al.; U.S. Patent No. 6,632,056 to Lind; U.S. Patent Application Publication No. 2003/0138307 to Lind; U.S. Patent No. 6,138,434 to Demars et al.; French Patent Application Publication No. 2,572,766 to Juillet; and German Patent Application Publication No. 702,410 to Baker.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gay Ann Spahn whose telephone number is (571)-272-7731. The examiner can normally be reached on Monday through Thursday, 8:30 am to 7:00 pm.

The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

^{GAS}
Gay Ann Spahn, Patent Examiner
November 16, 2005



MICHAEL SAFAVI
PRIMARY EXAMINER
ART UNIT 354